

PROCEEDINGS OF THE  
ROYAL ENTOMOLOGICAL SOCIETY  
OF LONDON

SERIES C. JOURNAL OF MEETINGS

---

VOLUME 13

No. 6, 1948

---

ORDINARY MEETING

WEDNESDAY, 7TH JULY, 1948, at 5.30 p.m.

AGENDA

1. Confirmation of the Proceedings of the Ordinary Meeting held on 2nd June, 1948.
2. Recommendations of candidates for Fellowship.
3. Announcement of election of new Fellows.
4. Additions to the Library.

*Presented.*

Smart, John. *A handbook for the identification of insects of medical importance*. 2nd Edition. 8vo. London, 1948. [The Trustees of the British Museum (Natural History).]

Roepke, W. *Rhopalocera Javanica (Part 3)*. 8vo. Wageningen, 1938. [The Author.]

*Purchased.*

Bodenheimer, F. S. *Materialen zur Geschichte der Entomologie bis Linné*. Band I. 4to. Berlin, 1928.

In addition, separates have been presented by Rothamsted Experimental Station, Mr. A. Denby Wilkinson, M. J. Lhoste, Prof. F. Silvestri, Dr. A. da Costa Lima, the U.S. Bureau of Entomology, Mr. E. B. Britton, the Council for Scientific and Industrial Research, Australia, the Rev. E. J. Pearce, Dr. M. Burr, the American Entomological Society, the East African Tsetse Reclamation Department, Mr. S. E. Fox, and the Trustees of the British Museum (Natural History).

5. Exhibits.
6. Admission of Fellows.
7. Communications.

Mr. F. N. Ratcliffe (a visitor).

The fruits of entomological work in the Australian Army, 1942-46.

---

If circumstances permit, tea will be served in the Library before the meeting.

## NOTICES

A card index of Fellows' addresses arranged on a geographical basis is now available for the use of Fellows in the Society's Rooms. Addresses in Great Britain are grouped under counties ; elsewhere under Dominions, Colonies, Foreign States, etc.

---

## ADMISSION OF FELLOWS

Any Fellow who has not been formally admitted to the Society under Chapter XIV, Section 4 of the Bye-Laws and attends the meeting on 7th July, 1948, is requested to inform the Secretary before 5.15 p.m. on that date.

---

PROCEEDINGS OF THE ORDINARY MEETING HELD ON 2ND JUNE, 1948.

Dr. C. B. Williams, M.A., President, in the Chair.

Present, 55 Fellows and 10 Visitors.

The minutes of the General Meeting and of the Ordinary Meeting held on 5th May, 1948, were confirmed, and signed by the President.

The names of the following candidates for election were read : For the first time : W. Bunting, F. G. W. Jones, M. S. Quraishi, P. P. L. Stevenson, Miss S. Symons, B.Sc., and W. H. Trethowan, M.A., M.B., B.Ch., M.R.C.P.

For the second time : Dr. G. H. Bulow, M.R.C.S., L.R.C.P., Capt. R. D. M. Cleaver, H. Hurst, B.Sc., Ph.D., and L. Jones.

The President announced that Dr. E. A. Cockayne, M.A., F.R.C.P., 8, High Street, Tring, Herts, had been elected a Special Life Fellow of the Society.

The Secretary read the names of the following newly elected Ordinary Fellows of the Society : Monsieur J. Carayon, Dr. es-Sc., Laboratoire d'Entomologie coloniale au Museum National d'Histoire Naturelle, 57, Rue Cuvier, Paris Ve, France ; R. P. Dales, 67, Westmoreland Avenue, Squirrels Heath, Essex ; H. Eric Goto, 21, Campden Crescent, North Wembley, Middlesex ; Carlos Koch, c/o Professor Raymond Dart, Section of Anatomy, Witwatersrand University, Johannesburg, S. Africa ; P. W. Oman, Ph.D., U.S. Bureau of Entomology and Plant Quarantine, U.S. Department of Agriculture, Washington 25, D.C., U.S.A. ; V. W. Philpott, Greenhill House, Weymouth ; G. C. Warrick, 14, Donnington Gardens, Reading, Berks ; K. P. Whitehorn, 205, Hither Green Lane, Lewisham, S.E.13.

Thanks were voted to donors of gifts to the Library since the last meeting.

The President extended a welcome to Dr. Luis Vargas, Chief of the Department of Parasitology in the University of Mexico, who was visiting the British Museum (Natural History) to study mosquitoes and SIMULIIDAE.

A letter was read from the Hon. Secretary of the Hampstead Scientific Society, 5, Winterstoke Gardens, Mill Hill, London, N.W. 7, announcing their



intention of undertaking a comprehensive survey of the Heath and inviting the help of entomologists who have access to records or a knowledge of the neighbourhood in preparing the necessary check lists.

Mr. A. E. Blake, Mr. Camden Clarke, Mr. T. T. Macan, and Miss A. A. Meikle, signed the Obligation Book and were admitted Fellows of the Society.

The following papers accepted for publication in the *Transactions* were read in title :—

“The genus *Tetrabrachys* (*Lithophilus*) with notes on its biology and a key to the species. (Coleoptera : COCCINELLIDAE)” by A. P. Kapur.

“Larvae of the NOCTUIDAE, IV,” by J. C. M. Gardner.

“The craneflies of New Caledonia (Diptera : TIPULIDAE),” by C. P. Alexander.

“Notes on the aquatic Hemiptera-Heteroptera of Trinidad and Tobago, with a description of a new species of *Martarega* B-White (NOTONECTIDAE),” by H. B. N. Hynes.

“The genera and species of REDUVIIDAE from the Philippines, Celebes and Malaysia,” by N. C. E. Miller.

“The ACRIDIDAE of Nigeria,” by F. D. Golding.

“*Pseudacraea eurytus* (L.) (Lep. NYMPHALIDAE) a study of a polymorphic mimic in various degrees of speciation,” by G. D. Hale Carpenter.

“The SIMULIIDAE of the Anglo-Egyptian Sudan,” by D. J. Lewis.

A discussion took place on the methods and significance of sound production in insects, in which the principal speakers were Dr. J. W. Evans, Dr. B. P. Uvarov and Dr. H. E. Hinton, abstracts of whose remarks appeared on page 22.

Dr. O. W. Richards remarked that the insect's chitinous jointed skeleton was ideal for the making of noises and considered that the subject of stridulation threw light on the way adaptations were evolved before the function with which they were associated arose ; this “pre-adaptation” facilitated the production of the stridulatory organs, to which the finishing touches were given by selection. In some insects, *e.g.*, certain Hymenoptera, the noises produced were simple and had no function, and there were transitional stages between these and the elaborate noises which might be protective or connected with mating.

Dr. Williams mentioned that in Central America the proportion of insects making noises was very high, particularly in the case of beetles. He had noticed that in some cases the noise emitted appeared to be incidental rather than functional, as in the case of the mud wasp, which made a high-pitched buzz when spreading mud. He had found by experiments in the perception of sound that locusts appeared to be sensitive to high-pitched rasping noises.

Professor Carpenter referred to the fact that in Uganda during the dry season MULTILLIDAE twittered like birds and that males of the genus *Mesoxantha* made a rattling noise.

Dr. V. B. Wigglesworth suggested that some of the stridulatory organs in which the sound produced appeared to have no function might be serving

as "stimulatory organs." It was characteristic of many insects that stimuli received from the antennae, ocelli and other sense organs were necessary to put the central nervous system into a reactive state. The vibratory stimuli produced by stridulation might serve some purpose of this kind.

Mr. H. Oldroyd pointed out that the buzzing flies, blowflies and related groups, are precisely those which have large squamae. TABANIDAE, which also have large squamae, have an unexplained organ near the posterior thoracic spiracle, which might be concerned in sound-production.

Dr. Hinton, in referring to Dr. Richards' remarks, said that it appeared from the structural diversity of the sound-producing organs and the very different circumstances in which sound was produced in the different species that the function of the sound was not always the same and that there was some evidence that the function was sometimes different in two stages of the same species. It was probable that the sound-producing structures were at least sometimes preceded in evolution by behaviour characteristics, such as tapping the substrate.

Commander Harper mentioned that the Arctiid moth *Euprepia pudica* Esper made a loud twittering sound when under the influence of light, and Dr. Hinton pointed out that in the males of this particular species the tymbals were strongly developed. Dr. Kettlewell said that very many British moths have large tympana, but there was no evidence that they necessarily produced sound. These tympana might well have a different purpose, possibly of receiving reflected sound. Dr. Hinton agreed that this was a possibility in the case of the ARCTIIDAE, which might send out ultrasonic waves, but there was nothing to suggest that it was so in the GEOMETRIDAE. He also said that he had recently discovered that tymbals were present in most ARCTIIDAE, LITHOSIIDAE, and SYNTOMIDAE.

Miss Longfield reported an undoubted case of "defensive" stridulation in the Longicorn beetle, *Butocera rubus* L., in Java. When the beetle was approached while it was on the ground, it raised itself threateningly on its hind legs and emitted a high screaming sound. This erect attitude was not connected with the production of the noise, which the beetle still produced from the region of the pronotum when held horizontally.

Mr. C. L. Collenette described an incident in Matto Grosso, Central Brazil, in which an *Ageronia* (possibly *A. februa sabatia* Fruhstorfer) responded to a clicking noise made by two small birds which were fighting, by making a similar noise. An account was published in 1928 (*Ent. mon. Mag.* 64 : 178). Mr. Nixon mentioned that *Vespa germanica* made an audible rhythmic noise at night.

Mr. E. B. Britton enquired whether it was not possible that the vibration of the stridulating insect was more important than the sound produced, which might be merely a by-product. Parasites and predators might be repelled by the vibration only when they came into contact with the stridulating insect.

Mr. C. N. Hawkins mentioned that he had made the following note about *Arctia caja* L. in 1913 : A forced female, which emerged at about 5.0 p.m. on 30th November, 1913, when walking frequently fluttered its wings very rapidly (one or two strokes at a time) without opening them more than a very little ; or rather a kind of tremor would pass all over the insect. This movement was accompanied by a distinct sound, something like the faint rustling of paper. Both sexes were subsequently observed to have the same habit. He suggested this was produced by the segments of the abdomen rubbing against each other as the sound seemed to come from this part.



In addition Mr. G. J. Kerrich exhibited living specimens of *Anastatus* sp. (Hym. EUPELMIDAE). In describing his exhibit he said that *Anastatus* was a Chalcid genus of the family EUPELMIDAE. In EUPELMIDAE and ENCYRTIDAE the mid legs and especially the tibial spurs were very powerfully developed, and were used for jumping. The species of *Anastatus* were true egg-parasites and the whole metamorphosis was undergone within the egg of the host insect. Known hosts were some of the larger Lepidoptera, like SATURNIIDAE, and Heteroptera such as PENTATOMIDAE, though one species, *A. blattidarum*, had been bred from egg-cases of small cockroaches in the Sudan. The species exhibited considerable sexual dimorphism: in the females the mesoprescutum and scutellum were differently coloured and of a rather velvety sculpture, whereas the males were more uniform in sculpture and colour and also paler in colour. Their wings were not conspicuously fasciated, as were those of the females. The genus was of some economic importance in the tropics, one species, for example, being parasitic on *Antestia*, a Pentatomid associated with coffee.

The species, of which living females were shown, was bred from eggs of a Saturniid taken in a garden in Nairobi, Kenya. Eggs were sent by air mail to Mr. W. J. B. Crotch, and parasites emerged alive in this country. Host eggs were also shown.

He thought that it would be novel for those whose field experience was confined to temperate countries to see living specimens of this out-size egg-parasite.

N. D. RILEY, *Honorary Secretary*.

The next meeting will be held on 1st September, at 5.30 p.m.

#### FIFTH COMMONWEALTH ENTOMOLOGICAL CONFERENCE, JULY, 1948.

Fellows who wish to attend the *Conversazione* to be held in the Society's rooms on 29th July are reminded that the postcards recently sent to them to enable them to apply for tickets should be returned by 8th July.

